AMENDMENTS TO THE CLAIMS

1. **(Currently amended)** A method of screening for an agent for inhibiting or reducing the proliferation or growth of lung cancer cells, comprising contacting lung cancer cells with an amount of an agent, ~~wherein the agent is a *pte* therapeutic and~~ wherein the agent is a small organic molecule, and determining, as compared to a control, whether the agent inhibits or attenuates hedgehog signaling~~/patched signal transduction~~ and whether the agent inhibits or reduces cell proliferation or growth, wherein if the agent inhibits or attenuates the hedgehog signaling~~/patched signal transduction~~ and inhibits or reduces cell proliferation or growth relative to the control, then an agent that inhibits or reduces the proliferation or growth of lung cancer cells is identified.

2. **(Currently amended)** A method of screening for an agent for inducing the formation of, or the maintenance or functional performance of normal lung tissue, comprising contacting lung tissue with an amount of an agent, ~~wherein the agent is a *pte* therapeutic,~~ and determining, as compared to a control, whether the agent promotes hedgehog signaling~~/patched signal transduction~~ and whether the agent induces the formation of, or the maintenance or functional performance of normal lung tissue, wherein if the agent promotes hedgehog signaling~~/patched signal transduction~~ relative to the control and induces the formation of, or the maintenance or functional performance of normal lung tissue, then an agent that induces the formation of, or the maintenance or functional performance of normal lung tissue is identified.

3. **(Currently amended)** The method of claim 1, wherein the lung cancer cells are ~~cell is~~ in culture~~, and the agent is provided as a cell culture additive~~.

4. **(Currently amended)** The method of claim 1, wherein the cells are ~~cell is treated~~ in an animal ~~and the agent is administered to the animal as a therapeutic composition~~.

5. **(Withdrawn)** The method of claim 1, wherein the agent is a hedgehog therapeutic.

6. **(Withdrawn)** The method of claim 5, wherein the hedgehog therapeutic is a polypeptide including a hedgehog polypeptide sequence of at least a bioactive extracellular portion of a hedgehog protein.

7. **(Withdrawn)** The method of claim 6, wherein the polypeptide includes at least 50 amino acids residues of an N-terminal half of the hedgehog protein.

8. **(Withdrawn)** The method of claim 6, wherein the polypeptide includes at least 100 amino acids of an extracellular domain of the hedgehog protein.

9. **(Withdrawn)** The method of claim 6, wherein the polypeptide includes at least a portion of the hedgehog protein corresponding to a 19kd fragment of an extracellular domain of the hedgehog protein.

10. **(Withdrawn)** The method of claim 6, wherein the hedgehog protein is encoded by a gene of a vertebrate organism.

11. **(Withdrawn)** The method of claim 6, wherein the polypeptide includes a hedgehog polypeptide sequence represented in the general formula of SEQ ID No. 21.

12. **(Withdrawn)** The method of claim 6, wherein the polypeptide includes a hedgehog polypeptide sequence represented in the general formula of SEQ ID No. 22.

13. **(Withdrawn)** The method of claim 6, wherein the hedgehog protein is encoded by a human hedgehog gene.

14. **(Withdrawn)** The method of claim 6, wherein the hedgehog polypeptide sequence is at least 60 percent identical to an amino acid sequence of a hedgehog protein selected from SEQ ID No:9, SEQ ID No:10, SEQ ID No:11, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, or SEQ ID No:16.

15. **(Withdrawn)** The method of claim 6, wherein the hedgehog polypeptide sequence is encodable by a nucleotide sequence which hybridizes under stringent conditions to a sequence selected from SEQ ID No:1, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, or SEQ ID No:8.

16. **(Withdrawn)** The method of claim 6, wherein the hedgehog polypeptide sequence is an amino acid sequence of a hedgehog protein selected from SEQ ID No:9, SEQ ID No:10, SEQ ID No:11, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, or SEQ ID No:16.

17. **(Withdrawn)** The method of claim 6, wherein the hedgehog polypeptide sequence is an amino acid sequence of a Sonic hedgehog protein.

18. **(Cancelled)**

19. **(Currently amended)** The method of claim 2, wherein the agent ~~*ptc* therapeutic~~ is a small organic molecule which binds to a patched protein and derepresses patched-mediated inhibition of mitosis.

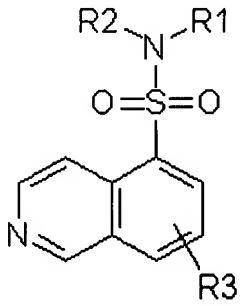
20. **(Currently amended)** The method of claim 2, wherein the agent ~~*ptc* therapeutic binds to patched and~~ mimics hedgehog, thereby promoting hedgehog signaling~~/patched signal transduction~~.

21. **(Currently amended)** The method of claim ~~1 or~~ 20, wherein the agent ~~*ptc* therapeutic~~ is a small organic molecule.

22. **(Currently amended)** The method of claim 2, wherein the agent ~~*ptc* therapeutic~~ is a protein kinase A inhibitor or a ptc antisense construct.

23. **(Previously presented)** The method of claim 22, wherein the protein kinase A inhibitor is selected from N-[2-((p-bromocinnamyl)amino)ethyl]-5-isoquinolinesulfonamide, 1-(5-isoquinoline-sulfonyl)-2-methylpiperazine, KT5720, and PKA Heat Stable Inhibitor isoform α.

24. **(Previously presented)** The method of claim 22, wherein the protein kinase A inhibitor is selected from a molecule of Formula I



wherein R_1 and R_2 each can independently represent hydrogen, and as valence and stability permit a lower alkyl, a lower alkenyl, a lower alkynyl, a carbonyl (such as a carboxyl, an ester, a formate, or a ketone), a thiocarbonyl (such as a thioester, a thioacetate, or a thioformate), an amino, an acylamino, an amido, a cyano, a nitro, an azido, a sulfate, a sulfonate, a sulfonamido, $-(CH_2)_m-R_8$, $-(CH_2)_m-OH$, $-(CH_2)_m-O$-lower alkyl, $-(CH_2)_m-O$-lower alkenyl, $-(CH_2)_n-O-(CH_2)_m-R_8$, $-(CH_2)_m-SH$, $-(CH_2)_m-S$-lower alkyl, $-(CH_2)_m-S$-lower alkenyl, $-(CH_2)_n-S-(CH_2)_m-R_8$, or

R_1 and R_2 taken together with N form a heterocycle (substituted or unsubstituted);

R_3 is absent or represents one or more substitutions to the isoquinoline ring such as a lower alkyl, a lower alkenyl, a lower alkynyl, a carbonyl (such as a carboxyl, an ester, a formate, or a ketone), a thiocarbonyl (such as a thioester, a thioacetate, or a thioformate), an amino, an acylamino, an amido, a cyano, a nitro, an azido, a sulfate, a sulfonate, a sulfonamido, $-(CH_2)_m-R_8$, $-(CH_2)_m-OH$, $-(CH_2)_m-O$-lower alkyl, $-(CH_2)_m-O$-lower alkenyl, $-(CH_2)_n-O-(CH_2)_m-R_8$, $-(CH_2)_m-SH$, $-(CH_2)_m-S$-lower alkyl, $-(CH_2)_m-S$-lower alkenyl, $-(CH_2)_n-S-(CH_2)_m-R_8$;

R_8 represents a substituted or unsubstituted aryl, aralkyl, cycloalkyl, cycloalkenyl, or heterocycle; and

n and m are independently for each occurrence zero or an integer in the range of 1 to 6.

25. **(Previously presented)** The method of claim 1, wherein the lung cancer cells are small cell lung cancer (SCLC) cells or non-small cell lung cancer (NSCLC) cells.

26. **(Previously presented)** The method of claim 1, wherein the lung cancer cells are adenocarcinoma cells, lung cell carcinoma cells, or squamus cell carcinoma cells.

27. **(New)** A method of screening for an agent for inhibiting or reducing the proliferation or growth of cells, comprising contacting normal lung cells with an amount of an agent, and determining, as compared to a control, whether the agent inhibits or attenuates hedgehog signaling and whether the agent inhibits or reduces cell proliferation or growth, wherein if the agent inhibits or attenuates the hedgehog signaling and inhibits or reduces cell proliferation or growth relative to the control, then an agent that inhibits or reduces the proliferation or growth of normal lung cells is identified.